

---

---

# Appendices

## STATE PROGRAMS TO ESTABLISH WELLHEAD PROTECTION AREAS

**A. STATE PROGRAMS** The Governor or Governor's designee of each state shall, within 3 years of the date of enactment of the Safe Drinking Water Act Amendments of 1986, adopt and submit to the Administrator a state program to protect wellhead areas within their jurisdiction from contaminants which may have any adverse effects on the health of persons. Each state program under this section shall, at a minimum--

1. Specify the duties of state agencies, local governmental entities, and public waste supply systems with respect to the development and implementation of programs required by this section;
2. For each wellhead, determine the wellhead protection area as defined in subsection (E) based on all reasonably available hydrogeologic information on ground water flow, recharge and discharge and other information the state deems necessary to adequately determine the wellhead protection area;
3. Identify within each wellhead protection area all potential anthropogenic sources of contaminants which may have any adverse effect on the health of persons;
4. Describe a program that contains, as appropriate, technical assistance, financial assistance, implementation of control measures, education, training, and demonstration contaminants;
5. Include contingency plans for the location and provision of alternate drinking water supplies for each public water system in the event of well or wellfield contamination by such contaminants; and
6. Include a requirement that consideration be given to all potential sources of such contaminants within the expected wellhead area of a new water well which serves a public water supply system.

**B. PUBLIC PARTICIPATION** To the maximum extent possible, each state shall establish procedures, including but not limited to the establishment of technical and citizens advisory committees, to encourage the public to participate in developing the protection program for wellhead areas. Such procedures shall include notice and opportunity for public hearing on the State program before it is submitted to the Administrator.

## C. DISAPPROVAL

1. **IN GENERAL** If, in the judgement of the Administrator, a State program (or portion thereof, including the definition of a wellhead protection area) is not adequate to protect public water systems as required by this section, the Administrator shall disapprove such program (or portion thereof). A State program developed pursuant to subsection (A) shall be deemed to be adequate unless the Administrator determines, within 9 months of the receipt of a State program, that such program (or portion thereof) is inadequate for the purpose of protecting public water systems as required by this section from contaminants that may have any adverse effect on the health of persons. If the Administrator determines that a proposed State program (or any portion thereof) is inadequate, the Administrator shall submit a written statement of the reasons for such determination to the Governor of the State.
2. **MODIFICATION AND RESUBMISSION** Within 6 months after receipt of the Administrator's written notice under paragraph (1) that any proposed State program (or portion thereof) is inadequate, the Governor or Governor's designee, shall modify the program based upon the recommendations of the Administrator and resubmit the modified program to the Administrator.

**D. FEDERAL ASSISTANCE** After the date 3 years after the enactment of this section, no State shall receive funds authorized to be appropriated under this section except for the purpose of implementing the program and requirements of paragraphs (4) and (6) of subsection (A).

**E. DEFINITION OF WELLHEAD PROTECTION AREA** As used in this section, the term wellhead protection area means the surface and subsurface area surrounding a water well or wellfield, supplying a public water system, through which contaminants are reasonably likely to move toward and reach such water well or wellfield. The extent of a wellhead protection area, within a State, necessary to provide protection from contaminants which may have any adverse effect on the health of persons is to be determined by the State in the program submitted under subsection (A). Not later than one year after the enactment of the Safe Drinking Water Act Amendments of 1986, the Administrator shall issue technical guidance which States may use in making such determinations. Such guidance may reflect such factors as the radius of influence around a well or wellfield, the depth of drawdown of the water tables by such well or wellfield at any given point, the time or rate of travel of various contaminants in various hydrologic conditions, distance from the well or wellfield, or other factors affecting the likelihood of contaminants reaching the well or wellfield, taking into account available

engineering pump tests or comparable data, field reconnaissance, topographic information, and the geology of the formation in which the well or wellfield is located.

## **F. PROHIBITIONS**

- 1. ACTIVITIES UNDER OTHER LAWS** No funds authorized to be appropriated under this section may be used to support activities authorized by the Federal Water Pollution Control Act, the Solid Waste Disposal Act, the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, or other sections of this Act.
- 2. INDIVIDUAL SOURCES** No funds authorized to be appropriated under this section may be used to bring individual sources of contamination into compliance.

**G. IMPLEMENTATION** Each State shall make every reasonable effort to implement the State wellhead area protection program under this section within 2 years of submitting the program to the Administrator, each State shall submit to the Administrator a biennial status report describing the States progress in implementing the program. Such report shall include amendments to the State program for water wells sited during the biennial period.

**H. FEDERAL AGENCIES** Each department, agency, and instrumentality of the executive, legislative, and judicial branches of the federal government having jurisdiction over any potential source of contaminants identified by a State program pursuant to the provisions of subsection (A)(3) shall be subject to and comply with all requirements of the State program developed according to subsection (A)(4) applicable to such potential source of contaminants, both substantive and procedural, in the same manner, and to the same extent, as any other person is subject to such requirements, including payment of reasonable charges and fees. The President may exempt any potential source under the jurisdiction of any department, agency, or instrumentality in the executive branch if the President determines it to be in the paramount interest of the United States to do so. No such exemption shall be granted due to the lack of an appropriation unless the President shall have specifically requested such appropriation as part of the budgetary process and the Congress shall have failed to make available such requested appropriations.

## **I. ADDITIONAL REQUIREMENT**

- 1. IN GENERAL** In addition to the provisions of subsection (A) of this section, States in which there are more than 2,500 active wells at which annular injection is used

as of January 1, 1986, shall include in their State program a certification that a State program exists and is being adequately enforced that provides protection from contaminants which may have any adverse effect on the health of persons and which are associated with the annular injection or surface disposal of brines associated with oil and gas production.

2. **DEFINITION** For purposes of this subsection, the term annular injection means the reinjection of brines associated with the production of oil or gas between the production and surface casings of a conventional oil or gas producing well.
3. **REVIEW** The Administrator shall conduct a review of each program certified under this section.
4. **DISAPPROVAL** If a State fails to include the certification required by this subsection or if in the judgement of the Administrator the State program certified under this subsection is not being adequately enforced, the Administrator shall disapprove the State program submitted under subsection (A) of this section.

**J. COORDINATION WITH OTHER LAWS** Nothing in this section shall authorize or require any department, agency, or other instrumentality of the federal government or State or local government to apportion, allocate or otherwise regulate the withdrawal or beneficial use of ground or surface waters, so as to abrogate or modify any existing rights to water established pursuant to state or federal law, including interstate compacts.

**K. AUTHORIZATION OF APPROPRIATIONS** Unless the state program is disapproved under this section, the Administrator shall make grants to the state for not less than 50 or more than 90 percent of the costs incurred by a state (as determined by the Administrator) in developing and implementing each state program under this section. For purposes of making such grants there is authorized to be appropriated not more than the following amounts:

| <u>Fiscal year:</u> | <u>Amount</u> |
|---------------------|---------------|
| 1987                | \$20,000,000  |
| 1988                | 20,000,000    |
| 1989                | 35,000,000    |
| 1990                | 35,000,000    |
| 1991                | 35,000,000    |

**APPENDIX B      IDAHO GROUND WATER PROTECTION ACT 1989**

---

IN THE SENATE  
SENATE BILL 1269  
BY STATE AFFAIRS COMMITTEE

RELATING TO GROUND WATER QUALITY; AMENDING SECTION 39-102, IDAHO CODE, TO PROVIDE LEGISLATIVE INTENT REGARDING GROUND WATER QUALITY; AMENDING CHAPTER 1, TITLE 39, IDAHO CODE, BY THE ADDITION OF NEW SECTIONS 39-120, 39-121, 39-122, 39-123, 39-124, 39-125, 39-126 AND 39-127, IDAHO CODE, TO DESIGNATE THE DEPARTMENT OF HEALTH AND WELFARE AS THE PRIMARY AGENT TO COORDINATE AND ADMINISTER GROUND WATER QUALITY PROTECTION PROGRAMS FOR THE STATE, TO PROVIDE THE SCOPE AND DUTIES OF THE GROUND WATER QUALITY COUNCIL AND CERTAIN STATE AGENCIES, TO DEFINE TERMS, TO CREATE THE GROUND WATER QUALITY COUNCIL, TO PROVIDE FOR COMPLETION OF THE GROUND WATER QUALITY PLAN, TO PROVIDE FOR ADOPTION, AMENDMENT OR REJECTION OF THE PLAN BY THE LEGISLATURE, TO PROVIDE FOR A CHAIRMAN AND QUORUM OF THE GROUND WATER QUALITY COUNCIL, TO PROVIDE THE DUTIES OF STATE AND LOCAL GOVERNMENTS REGARDING THE GROUND WATER QUALITY PLAN, AND TO PROVIDE FOR LIABILITY FOR APPLICATION OF A PESTICIDE OR FERTILIZER PRODUCT; AMENDING CHAPTER 65, TITLE 67, IDAHO CODE, BY THE ADDITION OF A NEW SECTION 67-6537, IDAHO CODE, TO PROVIDE FOR LOCAL GOVERNMENT'S COMPREHENSIVE PLAN TO GROUND WATER QUALITY; AND PROVIDING A SHORT TITLE.

Be It Enacted by the Legislature of the State of Idaho:

SECTION 1. That Section 39-102, Idaho Code, be, and the same is hereby amended to read as follows:

39-102. STATE POLICY ON ENVIRONMENTAL PROTECTION. 1. It is hereby recognized by the legislature that the protection of the environment and the promotion of personal health are vital concerns and are therefore of great importance to the future welfare of this state. It is therefore declared to be the policy of the state to provide for the protection of the environment and the promotion of personal health and to thereby protect and promote the health, safety and general welfare of the people of this state.

2. The goal of the legislature in enacting the ground water quality protection act of 1989 shall be to maintain the existing high quality of the state's ground water and to satisfy existing and projected future beneficial uses including drinking water, agricultural, industrial and aquacultural water supplies. All ground water shall be protected as a valuable public resource against unreasonable contamination or deterioration. The quality of degraded ground water shall be restored where feasible and appropriate to support identified beneficial uses.

3. In enacting this law, the legislature intends to prevent contamination of ground water from point and nonpoint sources of contamination to the maximum extent practical. In attaining the goals enumerated in subsections 1 and 2 of the section, the legislature wishes to enumerate the following ground water quality protection goals:

a. It is the policy of the state to prevent contamination of ground water from any source to the maximum extent practical.

b. The discovery of any contamination that poses a threat to existing or projected future beneficial uses of ground water shall require appropriate actions to prevent fur-

1 ther contamination. These actions may consist of investigation and evaluation or en-  
2 forcement actions if necessary to stop further contamination or clean up existing  
3 contamination as required under the environmental protection and health act.  
4 c. All persons in the state should conduct their activities so as to prevent the nonreg-  
5 ulated release of contaminants into ground water.  
6 d. Education of the citizens of the state is necessary to preserve and restore ground  
7 water quality.  
8

9 SECTION 2. That Chapter 1, Title 39, Idaho Code be, and the same is hereby  
10 amended by the addition thereto of NEW SECTIONS, to be known and designated as  
11 Sections 39-120, 39-121, 39-122, 39-123, 39-124, 39-125, 39-126, and 39-127, Idaho  
12 Code, and to read as follows:  
13

14 39-120. DEPARTMENT OF HEALTH AND WELFARE PRIMARY  
15 ADMINISTRATIVE AGENCY - AGENCY RESPONSIBILITIES. 1. The department of  
16 health and welfare is designated as the primary agency to coordinate and administer  
17 ground water quality protection programs for the state.

18 2. Recognizing that the department of water resources has the responsibility to  
19 maintain the natural resource geographic information system for the state and is the col-  
20 lector of baseline data for the state's water resources, that the department of health and  
21 welfare has the responsibility for collecting and monitoring data for water quality man-  
22 agement purposes and that the department of agriculture is responsible for regulating  
23 the use of pesticides and fertilizers and for licensing applicators, the department of  
24 health and welfare, the department of water resources and the department of  
25 agriculture in coordination with the ground water quality council shall:

26 a. Make plans for development and administration of a comprehensive ground  
27 water quality monitoring network, including point of use, point of contamination  
28 and problem assessment monitoring sites across the state and the assessment of am-  
29 bient ground water quality utilizing, the greatest degree possible, collection and  
30 coordination of existing data sources.

31 b. Prepare and annual report during the life of the council detailing the number and  
32 concentration of contaminants detected in ground water by location.

33 c. Establish a system or systems within state departments ad political subdivisions  
34 of the state for collecting, evaluating and disseminating ground water quality data  
35 and information.

36 d. Develop and maintain a natural resource geographic information system and  
37 comprehensive water resource data system. The system shall be accessible to the  
38 public.

39 3. The responsible state departments or boards, after consultation with the ground  
40 water quality council, should adopt rules which specify the general standards for deter-  
41 mining actions necessary to prevent ground water contamination and cleanup actions  
42 necessary to meet the goals of the state.

43 4. The board of health and welfare may adopt, by rule, after consultation with the  
44 ground water quality council, ambient ground water quality standards for contaminants  
45 for which the administrator of the United States environmental protection agency  
46 has established drinking water maxim contaminant levels. The board, after consultation  
47 with the ground water quality council, may adopt by rule such ground water quality  
48 standards for contaminants for which the administrator has not established drinking  
49 water maximum contaminant levels. However, the existence of such standards, or the  
50 lack of them, should not be construed or utilized in derogation of the ground water  
51 quality protection goals and protection policies of the state.

52 5. The departments of health and welfare, water resources and agriculture should  
53 take actions necessary to promote and assure public confidence an public awareness of  
54 ground water quality protection. In pursuing this goal, the departments and public  
55 health districts should make public the results of investigations concerning ground  
56 water quality subject to the restrictions contained in section 39-111, Idaho Code.



39-121.DEFINITIONS. As used in section 39-102, Idaho Code, and in sections 39-120 through 39-127, Idaho Code:

1. "Cleanup" means removal, treatment or isolation of a contaminant from ground water through the directed efforts of humans or the removal or treatment of a contaminant in ground water through management practice or the construction of barriers, trenches and other similar facilities for prevention of contamination, as well as the use of natural processes such as ground water recharge, natural decay and chemical or biological decomposition.

2. "Contaminant" means any chemical, ion, radionuclide, synthetic organic compound, microorganism, waste or other substance which does not occur naturally in ground water or which naturally occurs at a lower concentration.

3. "Contamination" means the direct or indirect introduction into ground water of any contaminant caused in whole or in part by human activities.

4. "Council" or "ground water quality council" means the ground water quality council created in section 39-122, Idaho Code.

5. "Ground water" means any water of the state which occurs beneath the surface of the earth in a saturated geological formation of rock or soil.

39-122. GROUND WATER QUALITY COUNCIL CREATED. 1. There is hereby created the ground water quality council. Membership on the council shall consist of the following:

a. The director of the department of health and welfare or his designee.

b. The director of the department of water resources or his designee.

c. The director of the department of agriculture or his designee.

d. A member of a district board of health appointed by the governor.

e. One (1) representative of the mining industry appointed by the governor.

f. One (1) representative of the agricultural industry or the feedlot or dairy industry appointed by the governor.

g. One (1) representative of the soil conservation districts or the soil conservation commission appointed by the governor.

h. One (1) representative of an environmental group or organization appointed by the governor.

i. One (1) representative of the general public appointed by the governor.

j. One (1) representative of the petroleum industry appointed by the governor.

k. One (1) representative of the agricultural chemical manufacturing or distribution industry appointed by the governor.

l. One (1) representative of city government appointed by the governor.

m. One (1) representative of the food processing industry appointed by the governor.

n. One (1) representative of the manufacturing industry which generates hazardous waste appointed by the governor.

o. One (1) representative of the hazardous waste treatment, storage or disposal industry appointed by the governor.

p. One (1) representative of county government appointed by the governor.

q. One (1) representative of a conservation organization appointed by the governor.

r. Additionally, the governor shall appoint representatives of the university of Idaho college of mines, the university of Idaho water resources research institute, the United States environmental protection agency, the Idaho national engineering laboratory and the United States geological survey to serve as ex officio nonvoting members of the ground water quality council.

2. Appointees to the ground water quality council shall serve at the pleasure of the governor.

3. Members of the ground water quality council who are not state employees shall be entitled to receive compensation as provided in section 59-509(b), Idaho Code.

4. The council by majority vote shall establish operating procedures. The operating procedures shall be made available for public review.

1           5. In the conduct of its business, the council shall solicit the advice of, and consult  
2 periodically with the cities, counties, private entities and persons within the state for the  
3 purpose of receiving information that may be helpful in the preparation of the ground  
4 water quality protection plan.

5           6. Following final approval of the ground water quality protection plan by the legis-  
6 lature, the council shall exist for up to two (2) years to see the progress made in  
7 implementing the provisions of the plan. If not reauthorized by the legislature following  
8 the two (2) years after the legislature's adoption of the plan, the council shall disband.  
9

10       39-123. COMPLETION OF GROUND WATER QUALITY PLAN. 1. Not later than  
11 June, 1, 1990, the ground water quality council shall prepare a ground water quality plan  
12 which shall comply with the direction enumerated in sections 39-102 and 39-120, Idaho  
13 Code.

14       2. The plan shall:

- 15       a. Describe the state's overall approach to protecting its ground water.
- 16       b. Take into account existing beneficial uses and existing ground water quality.
- 17       c. Identify existing authorities and programs to protect ground water quality.
- 18       d. Propose legislative, administrative and economic mechanisms to protect ground  
19 water quality.
- 20       e. Review and make recommendations on plans for development and  
21 administration of a comprehensive ground water monitoring network, including  
22 point of use, point of contamination and problem assessment monitoring sites across  
23 the state and the assessment of ambient ground water quality utilizing, to the great-  
24 est extent possible, collection and coordination of existing data sources.
- 25       f. Include programs to promote and assure public awareness of ground water  
26 protection.

27       Upon completion of the plan, the council shall publish a notice after giving twenty (20)  
28 days' notice as provided in section 60-109, Idaho Code, in one (1) or more newspapers  
29 and shall issue a statewide news release announcing the availability of the plan for  
30 inspection by interested persons. The announcement shall indicate where and how the  
31 plan may be obtained or reviewed and shall indicate the not less than three (3) public  
32 hearings shall be conducted at various locations in the state before formal adoption. The  
33 first public hearing shall not be held until forty-five (45) days have elapsed from the  
34 date of the notice announcing the availability of the plan. After public hearings, the  
35 council shall prepare a written summary of the comments received, provide comments  
36 on the major concerns raised, make amendments to the plan as necessary and shall for-  
37 mally adopt the plan, and shall submit the plan to the legislature at the first regular ses-  
38 sion of the legislature following adoption of the plan.  
39

40       39-124. AMENDMENT OR REJECTION OF PLAN. The legislature shall amend,  
41 adopt or reject the plan by passage of a statute at the regular legislative session when it  
42 receives the plan. If the plan is amended or rejected, the legislature shall indicate the rea-  
43 sons for amendment or rejection by passage of a statute and return the plan to the  
44 ground water quality council. After action by the legislature, the plan shall have the  
45 force and effect of law.  
46

47       39-125. CHAIRMAN-QUORUM. The chairman of the council shall be the director  
48 of the department of health and welfare or his designee. A majority of members shall  
49 constitute a quorum for the transaction of business. In the event a vacancy occurs on the  
50 council, a replacement shall be appointed in the same manner as an original member.  
51 The department of health and welfare shall pay the expenses and per diem of all mem-  
52 bers of the ground water quality council who are not state employees.  
53

54       39-126. DUTIES OF STATE AND LOCAL UNITS OF GOVERNMENT. 1. All state  
55 agencies shall incorporate the adopted ground water quality protection plan in the ad-  
56 ministration of their programs and shall have such additional authority to promulgate  
57 rules and regulations to protect ground water quality as necessary to administer such

1 programs which shall be in conformity with the ground water quality protection plan.  
2 Cities, counties and other political subdivisions of the state shall incorporate the ground  
3 water quality protection plan in their programs and are also authorized and encouraged to  
4 implement ground water quality protection policies within their respective jurisdic-  
5 tions, provided that the implementation is consistent with and not preempted by the  
6 laws of the state, the ground water quality protection plan and any rules or regulations  
7 promulgated thereunder. All state agencies, cities, counties and other political subdivi-  
8 sions shall cooperate with the ground water quality council, the department of health  
9 and welfare, the department of agriculture and the department of water resources in  
10 disseminating public information and education materials concerning the use and pro-  
11 tection of ground water quality, in collecting ground water quality management data,  
12 and in conducting research on technologies to prevent or remedy contamination of  
13 ground water.

14 2. Notwithstanding any other provision of law to the contrary, except as provided in  
15 subsection 3 of this section, whenever a state agency, city, county or other political sub-  
16 division of the state issues a permit or license which deals with the environment, the en-  
17 tity issuing the permit or license shall take into account the effect the permitted or  
18 licensed activity will have on the ground water quality of the state and it may attach  
19 conditions to the permit or license in order to mitigate potential or actual adverse effects  
20 from the permitted or licensed activity on the ground water quality of the state. Nothing  
21 contained in this section shall authorize a state agency, city, county or other political  
22 subdivision of the state to issue or require a permit or license which it is not otherwise  
23 allowed by law to issue or required.

24 3. Except as otherwise provided by the ground water quality protection plan, if a  
25 permit or license which deals with the environment is required to be obtained from a  
26 state agency and that agency considers the effect of the permitted or licensed activity on  
27 ground water quality, after notice to other units of government which may otherwise  
28 have regulatory authority over the activity which is the subject of the permit or license,  
29 a city, county or other political subdivision of the state shall not prohibit, limit or other-  
30 wise condition the rights of the permittee or licensee under the permit or license on ac-  
31 count of the effect the permitted or licensed activity may have on ground water quality.

32 Nothing contained in this section shall be deemed to permit cities, counties or other  
33 political subdivisions of the state to regulate ground water quality with respect to any  
34 activity for which another statute or other statutes may have expressly or impliedly pre-  
35 empted such local ground water quality regulation.

36  
37 39-127. APPLICATION OF FERTILIZERS AND PESTICIDES. No person shall be li-  
38 able for ground water contamination resulting from the application of fertilizers or pes-  
39 ticides if the person applies a fertilizer according to generally accepted agronomic  
40 practices, or applies a pesticide product registered under the federal insecticide, fungi-  
41 cide, rodenticide act according to label requirements, including precautionary  
42 statements, of the U.S. environmental protection agency, and such application of the  
43 pesticide or fertilizer is otherwise done with the proper equipment required by law, is  
44 without negligence and is in accordance with state laws.

45  
46 SECTION 3. That Chapter 65, Title 67, Idaho Code, be, and the same is hereby  
47 amended by the addition thereto of a NEW SECTION, to be known and designated as  
48 Section 67-6537, Idaho Code, and to read as follows:

49  
50 67-6537. APPLICATION TO GROUND WATER. When considering amending,  
51 repealing or adopting a comprehensive plan, the local governing board shall consider  
52 the effect the proposed amendment, repeal or adoption of the comprehensive plan  
53 would have on the quality of ground water in the area.

54  
55 SECTION 4. SHORT TITLE. This act may be known and cited as the "Ground Water  
56 Quality Protection act of 1989."

LEGISLATURE OF THE STATE OF IDAHO  
FIFTY-FIRST LEGISLATURE SECOND REGULAR SESSION-1992

IN THE SENATE  
SENATE BILL NO. 1321  
BY RESOURCES AND ENVIRONMENT COMMITTEE

AN ACT  
RELATING TO THE GROUND WATER QUALITY PLAN; PROVIDING LEGISLATIVE  
ADOPTION OF THE IDAHO GROUND WATER QUALITY PLAN.

Be It Enacted by the Legislature of the State of Idaho:

SECTION 1. Pursuant to the requirements of Section 39-124, Idaho Code, the  
Legislature of the State of Idaho does hereby adopt the Idaho Ground Water Quality  
Plan finally adopted by the Ground Water Quality Council on November 14, 1991,  
as provided in Section 39-123, Idaho Code.

**APPENDIX C      MEMBERS OF THE WELLHEAD PROTECTION WORK GROUP,  
TECHNICAL TASK FORCE, AND OTHER PARTICIPANTS**

---

**WELLHEAD PROTECTION WORKGROUP  
\*WELLHEAD PROTECTION TECHNICAL TASK FORCE**

| <b>LIST OF MEMBERS</b>        | <b>REPRESENTING</b>  |
|-------------------------------|--|
| Dan Brown*/Jon Bowling*       | United Water, Idaho, Inc. (Formally Boise Water Corporation); Boise, Idaho         |
| Lyle Briggs*/Richard Cummings | Garden City Public Works; Garden City, Idaho                                       |
| Sherl Chapman*                | Idaho Water Users Association, Inc.; Boise, Idaho                                  |
| Catherine Chertudi*           | Boise City Public Works; Boise, Idaho  |
| Darrel Clapp*                 | Idaho Rural Water Association; Weiser, Idaho                                       |
| Marc Eesley                   | Idaho Association of Cities; Boise, Idaho  |
| Nancy Johansen                | Latah County; Moscow, Idaho  |
| Mark Koffer*                  | Idaho Building Contractors Association/<br>Walker Water Systems; Twin Falls, Idaho |
| Mark Lowe                     | District Health Department; Pocatello, Idaho                                       |
| Rick Mallory                  | IDEQ, Drinking Water Program; Boise, Idaho   |
| Ken Neely*                    | IDWR, Boise, Idaho   |
| John Sutherland               | IDEQ, Rathdrum Prairie Aquifer Project;<br>Coeur d'Alene, Idaho                    |
| Jim Rush                      | League of Women Voters; Idaho Falls, Idaho   |
| Dave Tomten                   | EPA; Boise, Idaho  |
| Gerry Winter*                 | IDEQ; Boise, Idaho   |

Spencer Wood\*

Boise State University; Boise, Idaho

## OTHER PARTICIPANTS

Barbara Barber

City Councilwoman; Weiser, Idaho

Charles Berenbrock

USGS; Boise, Idaho

John Bokor

Idaho Rural Water Association; Donnelly, Idaho

Nancy Bowser

IDEQ; Boise, Idaho

Susie Budge

Idaho Council on Industry and Environment; Boise, Idaho

Tom Callmeyer

Chen Northern; Boise, Idaho

Marc Eesley

Ada County Association of Realtors

Wayne Faude

Soil Conservation Commission; Boise, Idaho

Jim Felton

Idaho Rural Water Association; Lewiston, Idaho

Jonathon Henning

Boise City Planning and Zoning; Boise, Idaho

Lee Holstine

Soil Conservation Commission; Boise, Idaho

Paul Jehn

IDEQ; Boise, Idaho

Joseph Koon

City of Twin Falls; Twin Falls, Idaho

Monty Marchus

IDEQ; Boise, Idaho

Dick Martindale

District Health Department; Coeur d'Alene, Idaho

John McLeod

IDWR; Boise, Idaho

Kirk Miller

EnviroSearch; Boise, Idaho

Roy Mink

Idaho Water Resource Research Institute; Moscow, Idaho

|               |   |
|---------------|---|
| John Moeller  | Brown and Caldwell; Boise, Idaho                                      |
| Roger Noble   | CH2M Hill; Boise, Idaho   |
| Brian Painter | IDEQ; Coeur d'Alene, Idaho  |
| Don Payton    | City of Cascade; Cascade, Idaho                                       |
| Daniel Picard | Nez Perce Tribe; Lapwai, Idaho  |
| Mary Price    | Nez Perce Tribe; Lapwai, Idaho  |
| Dick Rogers   | IDEQ; Boise, Idaho  |
| Marilyn Shinn | University of Idaho, Cooperative Agricultural Extension; Boise, Idaho |
| Jim Simpson   | City of Kuna; Kuna, Idaho   |
| Gary Slette   | Rosholt, Robertson and Tucker; Twin Falls, Idaho                      |
| Mark Slifka   | IDWR; Boise, Idaho  |
| Dennis Smith  | CH2M Hill; Boise, Idaho   |
| Mark Tanner   | City of Roberts; Roberts, Idaho                                       |
| Larry Thomsen | City of Pocatello; Pocatello, Idaho                                   |
| Roger Turner  | Shoshone-Bannock Tribes; Ft. Hall, Idaho                              |
| John Welhan   | Idaho Geologic Survey; Pocatello, Idaho                               |
| Dan Whitney   | Idaho Department of Agriculture; Boise, Idaho                         |







OFFICE OF THE GOVERNOR

STATE CAPITOL

BOISE 83720-1000

CECIL D. ANDRUS  
GOVERNOR

(208) 334-2100

March 2, 1987

Mr. Lee M. Thomas, Administrator  
U.S. Environmental Protection Agency  
401 M Street, S.W.  
Washington, DC 20460

Dear Mr. Thomas:

I am designating the Idaho Department of Health and Welfare, Division of Environment (IDHW-DOE), Water Quality Bureau, as the lead agency for developing Idaho's Wellhead Protection Program as authorized under the Safe Drinking Water Act Amendments of 1986. IDHW-DOE, Water Quality Bureau will also serve as the agency with responsibility for working with local governments to submit applications for Sole Source Aquifer Demonstration projects that were authorized under the same act.

IDHW-DOE, Water Quality Bureau has already been designated as the lead agency for groundwater quality. The Bureau has developed and updated the state's comprehensive Groundwater Quality Management Plan.

The Bureau is also the recipient of the Clean Water Act 106 Groundwater grants for program development. Among the projects that have been funded by this grant are special management strategies for two of Idaho's major aquifers.

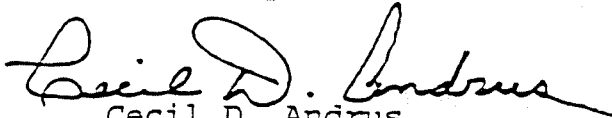
In addition, the state's Drinking Water Program is administered by this agency. IDHW-DOE will be expanding on this framework to incorporate the new groundwater management tools provided by the Wellhead and Aquifer Demonstration programs.

Mr. Lee M. Thomas  
March 2, 1987  
Page 2

For further information or requests for input, please  
contact:

Al E. Murrey, Chief  
Water Quality Bureau  
Idaho Department of Health and Welfare  
Division of Environment  
450 West State Street  
Boise, ID 83720  
Phone: (208) 334-5867

Sincerely,

  
Cecil D. Andrus  
Governor

cc: Robie Russel, EPA Region 10  
Richard Donovan, Health & Welfare  
Ken Brooks, Division of Environment  
Al Murrey, Division of Environment

CDA:lmj  
0078A

## **APPENDIX E    AN EVALUATION OF SOURCES OF GROUND WATER CONTAMINATION**

---

### **INTRODUCTION**

This report, originally designed as a supplement to the Ground Water Quality Plan, includes a table (Table E-1) of existing programs, rules and regulations, and responsible agencies that manage potential sources of ground water contamination. The table was prepared by IDEQ, in cooperation with IDA and IDWR at the direction of the Ground Water Quality Council. The table satisfies the requirement in the Ground Water Quality Protection Act of 1989, which states that the plan shall identify existing authorities and programs to protect ground water quality.

### **PURPOSE**

In addition to summarizing the existing authorities and programs, the table demonstrates the complexities of ground water quality programs. Each potential source of ground water contamination is managed differently. For example:

- ◆ Some sources are not managed by an established program but are managed by rules and regulations
- ◆ Some sources are not managed by any program or any rules or regulations
- ◆ Some sources are managed by established programs that may not be needed

The table presents the major sources of contamination that directly impact ground water quality. It is not intended to be a comprehensive listing of all possible potential sources of ground water contamination and associated rules and regulations.

The table does not prioritize the potential sources of contamination based on risk to human health and the environment. Instead, the sources are listed alphabetically. Prioritization is often accomplished using risk assessment studies and to date, this has not been done in Idaho.

## TABLE HEADINGS

The following is an explanation of the headings on the table.

### **Potential Source of Ground Water Contamination**

This column contains the name or a description of the potential source of ground water contamination.

### **Ground Water Quality Impact Concerns**

This column identifies the main ground water contamination concerns from a specific source of contamination.

### **Management by: Programs and/or Authority**

Potential sources of ground water contamination are managed by programs and/or by rules and regulations. Not all sources are managed by an established program but are managed by general rules and regulations which have not been developed and designed for the purpose of protecting ground water. An example of a general set of rules and regulations is the Water Quality Standards and Wastewater Treatment Requirements, which provides management direction for septage, sludge, and surface water quality. Other programs and rules and regulations have only been developed to address one specific potential source. For example, injection wells are managed by the Underground Injection Control Program which has established Rules and Regulations for the Construction and Use of Injection Wells.

The acronyms that are used under the Program and Authority topics are listed below:

|        |   |
|--------|---|
| CAFO   | Confined Animal Feeding Operation   |
| CERCLA | Comprehensive Environmental Response, Compensation, and Liability Act (Superfund) |
| FIFRA  | Federal Insecticide, Fungicide and Rodenticide Act                                |
| NPDES  | National Pollutant Discharge Elimination System                                   |
| RCRA   | Resource Conservation and Recovery Act  |
| SARA   | Superfund Amendments and Reauthorization Act                                      |
| SERC   | State Emergency Response Commission   |

**Administered by:**

The programs or rules and regulations may be administered by different federal, state and local agencies. Administration may also be the responsibility of several agencies.

These agencies are referred to by acronyms or shortened names and are explained as follows:

|              |   |
|--------------|---|
| ASCS         | Agricultural Stabilization and Conservation Service         |
| BLM          | Bureau of Land Management (Federal)                         |
| CES          | Cooperative Extension Services                              |
| DOT          | Department of Transportation                                |
| EPA          | Environmental Protection Agency (Federal)                   |
| IDA          | Idaho Department of Agriculture                             |
| IDEQ         | Idaho Division of Environmental Quality                     |
| IDL          | Idaho Department of Lands                                   |
| IDWR         | Idaho Department of Water Resource                          |
| IERC         | Idaho Emergency Response Commission                         |
| ITD          | Idaho Transportation Department                             |
| Health Dist. | District Health Departments                                 |
| Local        | City or County Governments and other political subdivisions |
| SAWQP        | State Agricultural Water Quality Program                    |
| SCC          | Soil Conservation Commission                                |
| SCD          | Soil Conservation District                                  |
| SCS          | Soil Conservation Service (Federal)                         |
| USDA         | United -States Department of Agriculture                    |

**Regulatory or Voluntary**

This column identifies whether the source management program is regulatory or voluntary. Regulatory programs generally utilize mandatory source control requirements such as permit conditions or mandatory Best Management Practices (BMPs). Voluntary programs generally utilize source control methods such as education and technical guidance.

**Ground Water Protection Addressed Specifically or Non-specifically**

When ground water protection is addressed specifically that means the program and/or rules and regulations incorporate ground water quality concerns.

If ground water protection is not specifically addressed that means the program and/or rules and regulations are designed primarily for other reasons, such as health or surface water quality concerns. However, the management of the source for these other purposes may also indirectly benefit ground water quality.

### **Recommendations and Comments to Improve Ground Water Protection in Existing Programs**

The recommendations and comments are interpretations by the DEQ staff, and by the Ground Water Quality Council Agricultural Subcommittee for agricultural sources of contamination. The purpose is to provide specific information for the following reasons:

- ◆ To clarify the focus of the program or rules and regulations.
- ◆ To provide information on proposed regulations or program changes.
- ◆ To identify areas where modifications or addition of information are necessary in existing voluntary or regulatory programs which address the management of sources of ground water contamination.

Table E-1: An Evaluation of Sources of Ground Water Contamination by Related Programs and Authorities - June 1992

| Potential Sources of Ground Water Contamination | Ground Water Quality Impact Concerns   | Source Management by   |  | Administered By | Program is |     | Ground Water Protection Addressed |    | Recommendations and Comments to Improve Ground Water Protection in Existing Programs   |
|---|--|--|--|-----------------|------------|-----|-----------------------------------|----|--|
|   |  | Program  | Authority  |                 | Reg        | Vol | S                                 | NS |  |
| Agricultural Chemical Spills                    | Infiltration of a release or its chemical constituents through the unsaturated zone, or entry by direct pathways such as poorly constructed wells and surface waters which are hydro-geologically connected to ground water. |  | SARA, Title III  | IERC            | X          |     |                                   | X  | <ol style="list-style-type: none"> <li>1. Develop guidelines and/or regulations for those agricultural chemicals and quantities that are not regulated under existing programs. IDA, ITD.</li> <li>2. Encourage beneficial uses of spilled material, IDA, DEQ.</li> <li>3. Develop informational, educational, and research programs which address ground water protection from agricultural chemical spills. All levels.</li> <li>4. Encourage the utilization of pertinent research results. All levels.</li> <li>5. Upgrade IDWR programs.</li> </ol> |
|   |  | Packaging  | FIFRA  | EPA             | X          |     |                                   | X  |  |
|   |  | Transportation requirements  | DOT  | DOT, ITD        |            | X   |                                   | X  |  |
|   |  | Contaminated media from commercial spills/leaks                      | RCRA   | DEQ, EPA        | X          |     |                                   | X  |  |
|   |  |  | Recently passed legislation addressing agricultural chemical spills. |                 | X          |     |                                   | X  |  |
|   |  | Idaho hazardous materials incident command and response support plan |  | IERC            |            | X   |                                   | X  |  |
|   |  | Injection well program (UIC)   | Rules and Regulations for Construction and Use of Injection Wells    | IDWR            | X          |     |                                   | X  |  |
|   |  | Well construction program  | Rules and Regulations for Well construction Standards                | IDWR            | X          |     | X                                 |    |  |
|   |  | Guidelines from various sources                                      |  |                 |            | X   |                                   | X  |  |

Reg = Regulatory, Vol = Voluntary, S = Specific, NS = Non specific

The potential sources of ground water contamination are listed in alphabetical order.

Table E-1 Continued

| Potential Sources of Ground Water Contamination                                     | Ground Water Quality Impact Concerns                         | Source Management by                          |   | Administered By                  | Program is |     | Ground Water Protection Addressed |    | Recommendations and Comments to Improve Ground Water Protection in Existing Programs  |
|---|--|---|---|----------------------------------|------------|-----|-----------------------------------|----|---|
|   |  | Program                                       | Authority   |                                  | Reg        | Vol | S                                 | NS |   |
| Agricultural Land Applied Waste and Wastewater                                      | Application of waste and wastewater in excess of crop needs. | Permits                                       | NPDES   | EPA, DEQ                         | X          |     |                                   | X  | <ol style="list-style-type: none"> <li>1. Expand guidance, rules and regulations for land application of waste and wastewater management from processing plants, CAFOS and aquaculture operations and other nonregulated land application activities to protect ground water quality. DEQ, EPA, IDA.</li> <li>2. Refine BMPs. SCC technical committee.</li> <li>3. Develop an MOU between appropriate federal/state/local agencies regarding agency roles and responsibilities for land applies waste and wastewater.</li> <li>4. Address the ground water quality protection shortcomings of the NPDES permit. DEQ, EPA.</li> <li>5. Research to identify alternative methods land application. CES, DEQ, IDA.</li> <li>6. Develop informational and educational programs for ground water quality protection from land applied waste and wastewater. All levels.</li> </ol> |
|   |  |   | Wastewater Land Application Permit Regulations                                  | DEQ                              | X          |     |                                   | X  |   |
|   |  |   | Idaho Water Quality Standards and Wastewater Treatment requirements             | DEQ Technical Advisory Committee | X          |     |                                   | X  |   |
|   |  | Water right permit requirements               | Title 42, chapter 2, Idaho Code, Rules and Regulations for Water Appropriations | IDWR                             | X          |     |                                   | X  |   |
|   |  | Agricultural waste management                 | Field Operation Technical Guide(FOTG)   | USDA, SCS                        |            | X   |                                   | X  |   |
| Agricultural Waste Disposal (i.e. treated seed, crop residue, and animal carcasses) | Infiltration of contaminants associated with such wastes.    | Disposal of miscellaneous agricultural wastes | Idaho State Solid Waste Regulations   | DEQ, Local government            | X          |     |                                   | X  | <ol style="list-style-type: none"> <li>1. Develop educational and informational programs which address proper disposal of agricultural wastes. CES, IDA.</li> <li>2. Evaluate effectiveness of existing programs/regulations for ground water quality protection by appropriate agencies/industry. IDA, DEQ, CES, EPA.</li> <li>3. Expand and develop guidelines for ground water quality protection from agricultural wastes. DEQ, IDA, CES.</li> </ol>  |
|   |  |   | RCRA, Subtitle D  | EPA, DEQ                         | X          |     |                                   | X  |   |
|   |  |   | UIC Permits and Regulations   | IDWR                             | X          |     |                                   | X  |   |
|   |  | Guidelines/BMPs                               |   | IDA                              |            | X   |                                   | X  |   |

Reg = Regulatory, Vol = Voluntary, S = Specific, NS = Non specific

The potential sources of ground water contamination are listed in alphabetical order.



Table E-1 Continued

| Potential Sources of Ground Water Contamination | Ground Water Quality Impact Concerns  | Source Management by  |   | Administered By                  | Program is |     | Ground Water Protection Addressed |    | Recommendations and Comments to Improve Ground Water Protection in Existing Programs  |
|---|---|---|---|----------------------------------|------------|-----|-----------------------------------|----|---|
|   |   | Program   | Authority   |                                  | Reg        | Vol | S                                 | NS |   |
| Animal Wastes                                   | Infiltration and runoff from CAFOS and dairies with inadequately designed feedlots and waste storage structures | Dairies (Grade A)   | Regulations for Grade A Dairies and Pasteurization Plants                       | IDA (7/1/92)                     | x          |     |                                   | x  | <ol style="list-style-type: none"> <li>1. The focus of the program is on surface water quality rather than ground water quality.</li> <li>2. SCDs should include an inventory of statewide CAFO operations in their five year program. SCD.</li> <li>3. Establish a monitoring and research program to determine the degree of CAFO impacts on ground water quality. CES/DEQ, IWRRI.</li> <li>4. Develop informational and educational programs for ground water protection from CAFOS at all levels.</li> <li>5. Provide additional personnel for technical assistance to design and implement CAFO waste management systems. SCS, DEQ IDA.</li> <li>6. Provide financial/cost share assistance for implementation of CAFO waste management systems. ASCS, SCS-RCD, SAWQP.</li> <li>7. Address the ground water quality protection shortcomings of the NPDES permit. DEQ, EPA.</li> <li>8. Coordinate Requirements of all agencies into CAFO management systems. SCC.</li> <li>9. Expand and promote Idaho waste management guidelines for CAFOS to address ground water quality protection DEQ lead.</li> <li>10. The focus of the program is on surface water quality rather than ground water quality.</li> </ol> |
|   |   | Dairies (Grade B)   | Idaho Dairy Laws, Rules and Regulations   | IDA                              | X          |     |                                   | X  |   |
|   |   |   | Waste Management Guidelines   | DEQ                              |            | X   |                                   | X  |   |
|   |   | CAFOS   | NPDES Permit  | EPA, DEQ                         | X          |     |                                   | X  |   |
|   |   | Compliance checks and complaint response                                | Idaho Water Quality Standards and Wastewater Treatment Requirements             | DEQ Technical Advisory Committee | X          |     |                                   | X  |   |
|   |   | Water right permitting  | Title 42, Chapter 2, Idaho Code, Rules and Regulations for Water Appropriations | IDWR                             | X          |     |                                   | X  |   |
|   |   | Concentrated animal feedlot operations waste management                 | Idaho Waste Management Guidelines   | DEQ Technical Advisory Committee |            | X   |                                   | X  |   |
|   |   | Financial/cost share assistance for implementation                      |   | ASCS, SCS-RCD, SCD               |            | X   |                                   | X  |   |
|   |   | Technical assistance for waste management system evaluation and design. |   | ASCS, SCS, SAWQP                 |            | X   |                                   | X  |   |

Reg = Regulatory, Vol = Voluntary, S = Specific, NS = Non specific

The potential sources of ground water contamination are listed in alphabetical order.

Table E-1 Continued

| Potential Sources of Ground Water Contamination | Ground Water Quality Impact Concerns   | Source Management by                                    |   | Administered By  | Program is |     | Ground Water Protection Addressed |    | Recommendations and Comments to Improve Ground Water Protection in Existing Programs  |
|---|--|---|---|------------------|------------|-----|-----------------------------------|----|---|
|   |  | Program   | Authority   |                  | Reg        | Vol | S                                 | NS |   |
| Aquacultural Wastes                             | Infiltration and wastewater runoff from inadequately constructed waste storage structures.               | Permits and inspection                                  | NPDES Permits   | EPA, DEQ         | X          |     |                                   | X  | <ol style="list-style-type: none"> <li>1. Develop design standards for waste storage ponds, lagoons. DEQ, SCS, IDA.</li> <li>2. Develop educational and informational programs for aquaculture waste management practices at all levels.</li> </ol> |
|   |  |   | Idaho Water Quality Standards and Wastewater Treatment Requirements | DEQ              | X          |     |                                   | X  |   |
|   |  | Public interest criteria of water rights                |   | IDWR             |            | X   |                                   | X  |   |
|   |  | BMPs system management                                  |   |                  |            | X   |                                   | X  |   |
|   |  | Technical assistance with facility design and operation |   | Industry         |            | X   |                                   | X  |   |
| Hazardous Wastes                                | Infiltration of wastes to ground water from improperly stored or improperly disposed of hazardous wastes | Hazardous Waste   | RCRA  | EPA              | X          |     | X                                 |    | Generators of very small quantity wastes are exempt from the regulations.   |
|   |  |   | Idaho Rules, Regulations and Standards for Hazardous Waste          | DEQ              | X          |     | X                                 |    |   |
| Household Hazardous Wastes                      | Household hazardous wastes that are improperly stored and disposed of can leach into ground water.       |   | Voluntary: Based on education and information                       | Local government |            | X   |                                   | X  | Public education is important for the control of this source.   |

Reg = Regulatory, Vol = Voluntary, S = Specific, NS = Non specific

The potential sources of ground water contamination are listed in alphabetical order.

Table E-1 Continued

| Potential Sources of Ground Water Contamination | Ground Water Quality Impact Concerns  | Source Management by          |   | Administered By | Program is |     | Ground Water Protection Addressed |    | Recommendations and Comments to Improve Ground Water Protection in Existing Programs   |
|---|---|-------------------------------|---|-----------------|------------|-----|-----------------------------------|----|--|
|   |   | Program                       | Authority   |                 | Reg        | Vol | S                                 | NS |  |
| Injection Wells                                 | Disposal of irrigation tail water or other runoff water which contains chemicals, organic material, petroleum products and oil products into unpermitted, poorly maintained and improperly closed or unauthorized abandoned disposal wells, lava tubes, fractured rock, gravel pits, etc. | Underground Injection Control | Safe Drinking Water Act   | EPA, IDWR       | X          |     | X                                 |    | <ol style="list-style-type: none"> <li>Promote, develop and revise BMP in regard to increasing water quality and decreasing water quantity of irrigation tail water and other runoff water entering injection wells and other disposal systems. SCC technical committee.</li> <li>Continue to improve educational and informational efforts IDWR, EPA.</li> <li>Identify contributors responsible for low water quality injectate and require that they share responsibility with owner/operator when more than one person, party or entity utilizes an injection well. IDWR.</li> <li>Ascertain the effect of injection well use on ground water quality by obtaining support for research to determine the fate of contaminants entering the subsurface environment through injection wells. IDWR, University of Idaho, IFBF.</li> <li>Develop guidelines and/or regulations for disposal systems that are not regulated under existing regulations.</li> <li>Encourage land user participation in SCD and other local programs that may provide BMP planning, implementation, and technical assistance. SCD.</li> <li>Evaluate and revise regulations as necessary to provide increased protection for ground water from injection wells and other disposal methods; strengthen compliance monitoring and enforcement efforts by obtaining support for increased well inspections, more detailed injectate characterization, emergency response capability, and penalties or well closure. IDWR, EPA.</li> <li>Not all well, excavations or openings are regulated by the program. Limited monitoring does not ensure compliance with the regulations.</li> </ol> |
|   |   |                               | Idaho Rules and Regulations for Construction and Use of Injection Wells | IDWR            | X          |     | X                                 |    |  |
|   |   |                               | Rules and Regulations for Well Construction Standards                   | IDWR, EPA       | X          |     | X                                 |    |  |
|   |   | Operation Outreach            |   | IDWR, EPA       |            | X   | X                                 |    |  |
|   |   |                               |   |                 |            |     |                                   |    |  |

Reg = Regulatory, Vol = Voluntary, S = Specific, NS = Non specific

The potential sources of ground water contamination are listed in alphabetical order.

Table E-1 Continued

| Potential Sources of Ground Water Contamination   | Ground Water Quality Impact Concerns   | Source Management by                     |   | Administered By                   | Program is |     | Ground Water Protection Addressed |    | Recommendations and Comments to Improve Ground Water Protection in Existing Programs  |
|---|--|--|---|-----------------------------------|------------|-----|-----------------------------------|----|---|
|   |  | Program                                  | Authority   |                                   | Reg        | Vol | S                                 | NS |   |
| Land Use Activities   | Inadequate planning and zoning can result in impacts to ground water below land use activities. Proper protection is needed for wellhead setbacks and well-head protection from land use activities. | Wellhead Protection                      | Safe Drinking Water Act, Amendments (1986)                          | EPA, DEQ                          |            | X   | X                                 |    | 1. Implementation of a wellhead protection plan by a local community is voluntary.<br>2. Some counties have not implemented a comprehensive land use program to date.                         |
|   |  | Planning and Zoning                      | Title 67, Chapter 65, Idaho Code, Comprehensive Land Use Act        | Local City and County Governments | X          |     |                                   | X  |   |
| Mining Using Cyanide  | Leaching excessive amounts of cyanide into the ground water  | Ore processing by cyanidation            | Rules and Regulations for ore processing by cyanidation             | DEQ                               | X          |     | X                                 |    | Leak detection is not required beneath the leach pads which hold ore piles.   |
| Municipal and Industrial (includes food processing) surface impoundments                    | Leakage and infiltration of wastes within impoundments to ground water   |  | Idaho Water Quality Standards and Wastewater Treatment Requirements | DEQ, IDWR                         | X          |     |                                   | X  | Leak detection and ground water monitoring is not generally required for surface impoundments.  |
| Municipal and industrial (includes food processing) wastewaters applied to the land surface |  | Wastewater-Land Application Permits      | Wastewater-Land Application Permits Regulations                     | DEQ                               | X          |     | X                                 |    | Feedlot dairies and mining operations are excluded from the regulations.  |
| Pesticides/ Agricultural Chemicals  |  | Agricultural Chemicals                   |   |                                   |            |     |                                   |    | State guidance for the protection of ground water from pesticides will be developed.  |
| a) Mixing and Loading   | Uncontained leakage and spills during mixing and loading activities, and backsiphoning into water source.  | Label requirements for mixing procedures | FIFRA   | EPA, IDA                          | X          |     |                                   | X  | 1. Evaluate existing information and develop standardized guidelines. IDA, GWR team.<br>2. Develop educational and informational programs at all levels. SCS, U of I, CES, DEQ, IDA, Industry |

Reg = Regulatory, Vol = Voluntary, S = Specific, NS = Non specific

The potential sources of ground water contamination are listed in alphabetical order.

Table E-1 Continued

| Potential Sources of Ground Water Contamination | Ground Water Quality Impact Concerns  | Source Management by   |  | Administered By                        | Program is |     | Ground Water Protection Addressed |    | Recommendations and Comments to Improve Ground Water Protection in Existing Programs   |
|---|---|--|--|--|------------|-----|-----------------------------------|----|--|
|   |   | Program  | Authority                                    |  | Reg        | Vol | S                                 | NS |  |
| a) Mixing and Loading (cont.)                   |   | Reinstate recycling and reuse provisions                             | RCRA   | EPA, IDA, DEQ, Industry                | X          |     |                                   | X  | 3. Develop state regulations/guidelines for proper mixing and loading procedures. EPA, Industry, U of I.<br>4. Develop design standards for mixing and loading areas. IDA, Industry, EPA, DEQ.<br>5. EPA to finalize mixing and loading regulations. (CFR Part 165) EPA.<br>6. Expand wellhead protection at all levels. DEQ, IDA, Local EPA, IDWR.  |
|   |   | Voluntary guidelines   |  | Various programs and agencies          |            | X   |                                   | X  |  |
| b) Storage and handling                         | Leakage or spills from storage containers and tanks as well as agrichemical-laden surface water runoff at facilities that lack adequate containment measures. | Label Requirements   | FIFRA  | EPA, IDA                               | X          |     |                                   | X  | 1. Evaluate existing information and develop standardized guidelines. IDA, Ground Water Review Team. (GWR).<br>2. Broaden scope of applicability Section 15 regulations. IDA<br>3. Develop state regulations for containment measures including SPCC plans at larger facilities. IERC.<br>4. Develop standardized guidelines for containment design. IDA.<br>5. EPA to finalize storage regulations (CFR Part 165). EPA.<br>6. Develop education and information dissemination programs at all levels. SCS, U of I, CES DEQ, IDA, Industry, IDWR.<br>7. Expand wellhead protection. DEQ, IDA, local EPA, IDWR.<br>8. Development of a State Pesticide Management Plan (SMP). IDA, DEQ.<br>9. Coordinate siting of agricultural chemical storage facilities with local planning and zoning entities. IDA, DEQ, EPA. |
|   |   | Pesticide Use Regulations  | Idaho Regulations for Pesticide Use          | IDA                                    | X          |     |                                   | X  |  |
|   |   |  | Local fire code and building code ordinances | State and local Fire Marshall          | X          |     |                                   | X  |  |
|   |   | USTs   | UST Regulations                              | State and local Fire Marshall EPA, DEQ | X          |     |                                   | X  |  |
|   |   | Public Drinking Water Systems  | Idaho Public Drinking Water Regulations      | EPA, DEQ, IDWR                         | X          |     |                                   | X  |  |
|   |   | Contaminated soils from commercial applicator storage related spills | RCRA   | EPA, IDA, DEQ                          | X          |     |                                   | X  |  |
|   |   | Voluntary guidelines from various sources.                           |  |  |            | X   |                                   | X  |  |

Reg = Regulatory, Vol = Voluntary, S = Specific, NS = Non specific

The potential sources of ground water contamination are listed in alphabetical order.

Table E-1 Continued

| Potential Sources of Ground Water Contamination | Ground Water Quality Impact Concerns   | Source Management by  |  | Administered By                    | Program is |     | Ground Water Protection Addressed |    | Recommendations and Comments to Improve Ground Water Protection in Existing Programs   |
|---|--|---|--|------------------------------------|------------|-----|-----------------------------------|----|--|
|   |  | Program   | Authority  |                                    | Reg        | Vol | S                                 | NS |  |
| c. Application/ Agricultural Practices          | Infiltration of agricultural chemicals or their chemical constituents below the crop root zone or entry by direct pathways, such as poorly constructed wells and surface waters, which are hydrologically connected to ground water. | Labeling requirements; cultural practice restrictions                             | FIFRA  | EPA, IDA, U of I                   | X          |     |                                   | X  | <ol style="list-style-type: none"> <li>1. Develop a cooperative agreement between local Soil Conservation Districts and an operator that provides for developing a water quality management plan that addresses surface water and ground water pollution sources and satisfies all applicable state and federal requirements for water quality protection which includes the implementation of BMPs. Local SCDs.</li> <li>2. Develop and update ground water quality protection BMPs for agricultural chemical application/ cultural practices. SCC lead, technical committee.</li> <li>3. Coordinate irrigation programs and other BMPs within CES, SCS, Bureau of Reclamation, IDWR.</li> <li>4. Develop and implement a SMP. IDA, DEQ, EPA.</li> <li>5. Address ground water quality protection in the revision of the APAP. SCC and SAWQP.</li> <li>6. Encourage expansion of SAWQP for ground water projects. IDA, Industry, DEQ.</li> <li>7. Develop informational, educational and research programs (especially promote development and distribution of ground water protection hand books: Pesticide, Nutrient, and Irrigation Management) which address ground water protection from agricultural chemical spills. All entities.</li> <li>8. Accelerate and continue federal projects such as USDA ground water demonstration projects. USDA lead, SCS, CES, ASCS, SCD, DEQ IDWR, Industry.</li> <li>9. Encourage land user participation in SCD and other local programs that may provide BMP planning, implementation and technical assistance. All entities.</li> <li>10. Encourage expansion and continuation of privately (i.e. Farm Bureau) and publicly sponsored ground water quality programs including pesticide use information, vulnerability mapping and others. All entities.</li> </ol> |
|   |  |   | Chapter 34, Pesticide Law  | IDA                                | X          |     |                                   | X  |  |
|   |  |   | 1990 Farm Bill, Water Quality Plan Provisions  | USDA, U of I, DEQ, IDA, EPA, SCD   |            | X   |                                   | X  |  |
|   |  | Construction of wells   | Rules and Regulations for Well Construction Standards, Regulations for Well Drillers | IDWR                               | X          |     | X                                 |    |  |
|   |  | Water rights  | Rules and Regulations for Water Approp.  | IDWR                               | X          |     |                                   | X  |  |
|   |  | BMPs, pesticide, nutrient, water management plans, conservation cropping practice |  | SCC lead and technical committee   |            | X   |                                   | X  |  |
|   |  | Irrigation management guidelines  |  | SCS, U of I, Bureau of Reclamation |            | X   |                                   | X  |  |

Reg = Regulatory, Vol = Voluntary, S = Specific, NS = Non specific

The potential sources of ground water contamination are listed in alphabetical order.

Table E-1 Continued

| Potential Sources of Ground Water Contamination                    | Ground Water Quality Impact Concerns  | Source Management by                               |   | Administered By                          | Program is |     | Ground Water Protection Addressed |    | Recommendations and Comments to Improve Ground Water Protection in Existing Programs  |
|--|---|--|---|--|------------|-----|-----------------------------------|----|---|
|  |   | Program  | Authority   |  | Reg        | Vol | S                                 | NS |   |
| d. Waste Disposal  | Improper disposal of agricultural chemical containers and unused product          | Construction and use of injection wells            | Idaho Rules and Regulations for Construction and Use of Injection Wells | IDWR, EPA                                | X          |     |                                   | X  | 1. Promote informational and educational programs to address proper disposal of agricultural chemical containers and unused products. All levels.<br>2. Evaluate effectiveness of existing programs/regulations for ground water quality protection by appropriate agencies/industry. Ground water review team.<br>3. EPA to finalize disposal regulations (CFR Part 165). EPA.<br>4. Development of a SMP. IDA lead. |
|  |   | State authority for IDA to develop regulations     | Chapter 34, Idaho Code  | IDA                                      | X          |     |                                   | X  |   |
|  |   | Disposal of agricultural chemical hazardous wastes | RCRA  | DEQ, EPA                                 | X          |     |                                   | X  |   |
|  |   | Label requirements                                 | FIFRA   | IDA, EPA                                 | X          |     |                                   | X  |   |
|  |   | Small generator/hazardous materials                | RCRA  | DEQ, Health Districts, local governments | X          |     |                                   | X  |   |
|  |   | Construction and use of injection wells            | Idaho Rules and Regulations for Construction and use of Injection wells | IDWR, EPA                                | X          |     |                                   | X  |   |
|  |   | CES, EPA recommended practices                     |   | CES, IDA, DEQ                            |            | X   |                                   | X  |   |
|  |   | Household hazardous waste collection programs      |   | DEQ, local government, industry          |            | X   |                                   | X  |   |
| Petroleum and chemicals stored in underground storage tank systems | Leaking tanks and overfilling tanks cause contamination of soil and ground water. | Underground Storage Tank Systems                   | RCRA  | EPA, DEQ                                 | X          |     | X                                 |    | Small tanks, home heating oil tanks and farm and residential tanks holding 1,100 or less of motor fuel used for noncommercial purposes are excluded from these regulations.   |

Reg = Regulatory, Vol = Voluntary, S = Specific, NS = Non specific

The potential sources of ground water contamination are listed in alphabetical order.

Table E-1 Continued

| Potential Sources of Ground Water Contamination  | Ground Water Quality Impact Concerns  | Source Management by                               |   | Administered By                         | Program is |     | Ground Water Protection Addressed |    | Recommendations and Comments to Improve Ground Water Protection in Existing Programs   |
|--|---|--|---|---|------------|-----|-----------------------------------|----|--|
|  |   | Program  | Authority   |   | Reg        | Vol | S                                 | NS |  |
| Sanitary landfills, community composting, agricultural and food processing wastes and other non-hazardous wastes | Leachate from improperly constructed or maintained landfills contaminates ground water and nearby drinking water sources.   | Solid Waste  | RCRA  | EPA                                     | X          |     | X                                 |    | The new EPA solid waste regulations have direct protection components for ground water. Idaho will need to revise the existing regulations to meet the federal requirements.                     |
|  |   |  | Idaho Solid Management Regulations and Standards                        | DEQ, Health Districts, local government | X          |     |                                   | X  |  |
| Septage - the contents of septic tanks and grease and sand traps   | Leakage spillage and overfilling of contents as well as inadequate disposal of septage infiltrates into soil and ground water or runs off into surface waters which are interconnected to ground water. | Septage  | Regulations governing the cleaning of septic tanks                      | Health Districts                        | X          |     |                                   | X  | There is a lack of disposal sites willing to accept the pumped contents from grease and sand traps because petroleum products, heavy metals and polychlorinated byphenyls (PCBs) may be present. |
| Septic Tanks/Drainfields   | Improperly constructed or illegal systems can contaminate ground water.   | On-site sewage systems (individual and commercial) | Idaho Regulations for Individual and Subsurface Sewage Disposal Systems | Health Districts                        | X          |     |                                   | X  | There is no guidance for the abandonment of septic tanks or drainfields.   |
| Significantly contaminated sites with unwilling or no responsible parties.                                       | Leaves outstanding ground water contamination if responsible parties are not found.   | CERCLA   | CERCLA, SARA Amendments (1986)  | EPA, DEQ                                | X          |     | X                                 |    | Less than 1000 sites are on the federal list for clean up.   |
| Sludge Usage   |   |  | Idaho Water Quality Standards and Wastewater Treatment Requirements     | DEQ                                     | X          |     | X                                 |    | Ground water monitoring is not routinely required, however, proposed federal regulations require such monitoring.  |

Reg = Regulatory, Vol = Voluntary, S = Specific, NS = Non specific

The potential sources of ground water contamination are listed in alphabetical order.



Table E-1 Continued

| Potential Sources of Ground Water Contamination | Ground Water Quality Impact Concerns   | Source Management by                       |  | Administered By          | Program is |     | Ground Water Protection Addressed |    | Recommendations and Comments to Improve Ground Water Protection in Existing Programs  |
|---|--|--|--|--------------------------|------------|-----|-----------------------------------|----|---|
|   |  | Program                                    | Authority  |                          | Reg        | Vol | S                                 | NS |   |
| Spills  |  | SERC                                       | Emergency Planning and Community Right to Know Act SARA Title III                  | EPA                      | X          |     | X                                 |    |   |
|   |  |  | Idaho Hazardous Substance Response Act   | DEQ, local agencies      | X          |     | X                                 |    |   |
| Storm Water Runoff                              | Storm water containing petroleum, greases, VOCs and organic material infiltrates down into ground water. | National Urban Runoff (Storm Water Runoff) | NPDES Permit   | EPA, local government    | X          |     |                                   | X  | 1. The national program is only mandatory for communities of 100,000 or more and commercial sites greater than five acres.<br>2. The focus of the program is on the surface water quality rather than ground water quality. |
| Surface Mining Operations                       |  | Surface Mining                             | Rules and Regulations Governing Exploration and Surface Mining Operations in Idaho | IDL, BLM, Forest Service | X          |     |                                   | X  | There are no requirements for ground water monitoring at surface mining sites.  |
|   |  |  | Rules and Regulations Governing Placer and Dredge Mining Operations in Idaho       |                          | X          |     |                                   | X  |   |

Reg = Regulatory, Vol = Voluntary, S = Specific, NS = Non specific

The potential sources of ground water contamination are listed in alphabetical order.

Table E-1 Continued

| Potential Sources of Ground Water Contamination | Ground Water Quality Impact Concerns   | Source Management by            |   | Administered By    | Program is |     | Ground Water Protection Addressed |    | Recommendations and Comments to Improve Ground Water Protection in Existing Programs   |
|---|--|---------------------------------|---|--------------------|------------|-----|-----------------------------------|----|--|
|   |  | Program                         | Authority   |                    | Reg        | Vol | S                                 | NS |  |
| Urban/Non Agricultural Chemicals                | Infiltration of non-agricultural chemicals, a chemical release, or its chemical constituents through the unsaturated zone; or entry by direct pathways such as poorly constructed wells, inadequate water systems back-siphoning protection, improper cross connection, and surface waters which are hydrologically connected to ground water. | Labeling requirements           | FIFRA   | IDA, EPA           | X          |     |                                   | X  | <ol style="list-style-type: none"> <li>1. Research studies to determine degree of ground water contamination in urban areas, DEQ, IDA.</li> <li>2. Research studies to identify alternative methods of urban and non agricultural uses of chemicals. CES, Industry, EPA.</li> <li>3. Develop informational, educational, and training programs for commercial and residential users. All entities.</li> <li>4. Conduct urban pesticide sales study. IDA.</li> <li>5. Increased development of outreach programs for information and education. CES, IDA, EPA.</li> </ol> |
|   |  | Commercial applicators          | Chapter 34, Idaho Code  | IDA                | X          |     |                                   | X  |  |
|   |  | Community awareness programs    |   | IDA, CES, Industry |            | X   |                                   | X  |  |
|   |  | Guidelines from various sources |   |                    |            | X   |                                   | X  |  |
| Well construction and abandonment.              | Contamination of ground water via improperly constructed or abandoned wells.   | Well Construction Standards     | Rules & Regulations for Well Construction Standards                         | IDWR               | X          |     | X                                 |    | <ol style="list-style-type: none"> <li>1. Update IDWR rules and regulations to better address water mixing between aquifers and siting of wells near potential contamination sources. IDWR.</li> <li>2. Increase support for education of IDWR regulatory personnel. IDWR.</li> <li>3. Expand public and driller awareness and cooperation through increased communication with IDWR ground water personnel. IDWR.</li> <li>4. Increase support for field inspections for well construction and locating improperly abandoned wells. IDWR.</li> </ol>                    |
|   |  |                                 | Idaho Code and Rules and Regulations Governing Water Well Drillers Licenses | IDWR               | X          |     | X                                 |    |  |
|   |  |                                 | Regulations for Individual Subsurface Sewage Systems                        | Health Districts   | X          |     | X                                 |    |  |
|   |  |                                 | Idaho Drinking Water Regulations for Public Systems                         | DEQ                | X          |     | X                                 |    |  |
|   |  |                                 | Idaho Guidelines for Non-Public Water Systems                               | Health Districts   |            | X   | X                                 |    |  |

Reg = Regulatory, Vol = Voluntary, S = Specific, NS = Non specific

The potential sources of ground water contamination are listed in alphabetical order.